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**Web**Results 1 - 10 of about 915 for "**natural language**" "**conceptual graph**". (0.40 seconds)**Conceptual Graphs**

... database design, expert systems, and **natural language** processing. ... For the **conceptual graph** standard:. Recently updated Working draft of the proposed ...

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**Conceptual Graph Bibliography**

**Conceptual Graph Bibliography.** The theory and notation for conceptual graphs were ... knowledge representation language for **natural language** generation [8], ...

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**A World of Conceptual Graphs**

... Fast **Conceptual Graph** Retrieval and Question Answering ... Use of conceptual graphs for **natural language** generation ...

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**A World of Conceptual Graphs**

... for information retrieval, database design, expert systems, and **natural language** processing. ... Fast **Conceptual Graph** Retrieval and Question Answering ...

[www.cs.uah.edu/~delugach/CG/body.html](http://www.cs.uah.edu/~delugach/CG/body.html) - 25k - [Cached](#) - [Similar pages](#)

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**Advance Program**

... **Natural Language** Understanding and Document Processing ... 2:00p.m Extending the **Conceptual Graph** Approach to Represent Evaluative Attitudes ...

[www.ee.vt.edu/~iccs99/advprogram.html](http://www.ee.vt.edu/~iccs99/advprogram.html) - 10k - [Cached](#) - [Similar pages](#)

**BEELINE Natural Language Understanding**

... What **Conceptual Graph** Workbenches Need for **Natural Language** Processing, Mann GA, International Conference on Conceptual Structures 95, University of ...

[www.it.murdoch.edu.au/~mann/NL/BEELINE.html](http://www.it.murdoch.edu.au/~mann/NL/BEELINE.html) - 6k - [Cached](#) - [Similar pages](#)

**[PDF] Causal ambiguity in Natural Language: conceptual representation of ...**

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... relations found in texts written in **natural language**, in order for KALIPSOS [1],

... reader is familiar with Sowa's **Conceptual Graph** ...

[acl.ldc.upenn.edu/C/C92/C92-3131.pdf](http://acl.ldc.upenn.edu/C/C92/C92-3131.pdf) - [Similar pages](#)

**Refining Sowa's conceptual graph theory for text generation**

... We had to extend the **conceptual graph** model mainly because in Sowa's approach temporal ... 7 Eduard H. Hovy, Generating **Natural Language** under Pragmatic ...

[portal.acm.org/citation.cfm?id=98880](http://portal.acm.org/citation.cfm?id=98880) - [Similar pages](#)

**TWD98 summary**

... computational problems with **natural language** understanding and generating;;

do **conceptual graph** diagrammatic representations facilitate the expression ...

[www.cbl.leeds.ac.uk/~vania/TWD98/Summary.html](http://www.cbl.leeds.ac.uk/~vania/TWD98/Summary.html) - 11k - [Cached](#) - [Similar pages](#)

AI-Trader


... Conceptual graphs have been developed to model the semantics of **natural language**.

... From an abstract point of view a **conceptual graph** is a finite, ...

[www.puder.org/aitrader/cg/](http://www.puder.org/aitrader/cg/) - 6k - Jan 4, 2005 - [Cached](#) - [Similar pages](#)

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Please Expedite  
1/5/5

Access DB# 1417806  
19

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: HANNA TITAN Examiner #: 79364 Date: 01/05/05  
Art Unit: 2161 Phone Number: 302 4029 Serial Number: 09/852,317  
Mail Box and Bldg/Room Location: 3C21 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.  
\*\*\*\*\*  
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Information Generation & Retrieval method based on standardized for  
Inventors (please provide full names): of sentence structure & semantic structure and system using  
Keou-Hoe Cha, Eui-Sok Chung, Soo-Jung Kim and Same  
Hyun-kyu Kang.  
Earliest Priority Filing Date: 12/08/2000

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Transforming a natural language query sentence inputted from  
a user to a conceptual graph depending on the standardized formats  
of sentence structure and semantic structure and searching information  
relevant to the natural language query sentence inputted from  
the user using the indexed information:  
keywords: Sentence structure / semantic structure / semantic relevance /  
query input / conceptual graph / index / thesaurus / morphology

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>David Holloway</u>	NA Sequence (#)	STN	
Searcher Phone #: <u>2-3528</u>	AA Sequence (#)	Dialog <u>1/</u>	
Searcher Location: <u>4B 19 - Rm</u>	Structure (#)	Questel/Orbit	
Date Searcher Picked Up: <u>1-5-05</u>	Bibliographic <u>✓</u>	Dr.Link	
Date Completed: <u>1-6-05</u>	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: <u>30</u>	Fulltext <u>✓</u>	Sequence Systems	
Clerical Prep Time:	Patent Family	WWW/Internet	
Online Time: <u>154</u>	Other	Other (specify)	

Set	Items	Description
S1	2661	NATURAL() (TEXT? OR LANGUAGE?)
S2	975	CONCEPT?() (STRUCTUR? OR NOTATION? OR GRAPH?) OR KIF OR KIFS OR CGIF?
S3	1808918	QUERY OR QUERIES OR RETRIEV? OR INQUIR? OR SEARCH OR SEARC- HES OR SEARCHING OR SEARCHENGINE? OR SEEK? OR LOCAT? OR MATCH? OR FIND OR FINDS OR FINDING
S4	14971	SENTENC? OR GRAMMAR? OR GRAMMATIC? OR STANDARD() STRUCTUR?
S5	985476	TRANSLAT? OR MAP OR MAPPING OR MAPPED OR INDEX? OR TRANSFO- RM? OR CREAT? OR PARS?
S6	597	S3 (10N) S4 (10N) S5
S7	77	S6 (10N) (S1 OR S2)
S8	0	S6 (8N) S2
S9	76	S6 (10N) S1
S10	4	S1 (3N) S2
S11	28	S2 (4N) S3
S12	4	S11 (12N) (S4 OR S5)
S13	59	(S9 OR S11) AND IC=(G06F-007? OR G06F-017?)
S14	63	S10 OR S12 OR S13
S15	35	S14 NOT AD=20001208:20021208
S16	31	S15 NOT AD=20021208:20050110
S17	31	IDPAT (sorted in duplicate/non-duplicate order)
S18	29	IDPAT (primary/non-duplicate records only)

File 348:EUROPEAN PATENTS 1978-2004/Dec W04  
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File 349:PCT FULLTEXT 1979-2002/UB=20041230,UT=20041223  
(c) 2004 WIPO/Univentio

18/3,K/4 (Item 4 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00953912

Method and apparatus for searching for files and for utilizing the found files

Verfahren und Gerat, um Dateien zu suchen und die gefundenen Dateien zu benutzen

Procede et dispositif pour chercher des fichiers et utiliser les fichiers trouves

PATENT ASSIGNEE:

NEC CORPORATION, (236690), 7-1, Shiba 5-chome Minato-ku, Tokyo, (JP),

(applicant designated states:

AT;BE;CH;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)

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Muraki, Kazunori, NEC Corporation, 7-1, Shiba 5-chome, Minato-ku, Tokyo, (JP)

Ikeda, Takahiro, NEC Corporation, 7-1, Shiba 5-chome, Minato-ku, Tokyo, (JP)

LEGAL REPRESENTATIVE:

Betten & Resch (101031), Reichenbachstrasse 19, 80469 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 864989 A2 980916 (Basic)

APPLICATION (CC, No, Date): EP 98104182 980309;

PRIORITY (CC, No, Date): JP 9756059 970311

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT WORD COUNT: 192

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9838	2257
SPEC A	(English)	9838	3642
Total word count - document A			5899
Total word count - document B			0
Total word count - documents A + B			5899

INTERNATIONAL PATENT CLASS: G06F-017/30

...SPECIFICATION of Search Format". However, this apparatus assumes the existence of an input mechanism which accepts natural language text which corresponds to natural language or restricted sentence construction and vocabulary. Accordingly, a user is required to create command text which correspond to search formats in natural language or pseudo- natural language , and to spend a significant amount of time for the input process.

No matter how...

18/3,K/6 (Item 6 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00915863

Method and system for identifying and resolving commonly confused words in a natural language parser

Verfahren und System zum Identifizieren und Richtigstellen von oft missverstandenen Worten in einem Parser fur natuerliche Sprachen

Methode et systeme pour l'identification et la resolution de confusions lexicales courantes dans un analyseur syntaxique de langage naturel

PATENT ASSIGNEE:

MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington 98052-6399, (US), (Applicant designated States: all)

INVENTOR:

Richardson, Stephen Darrow, 18028 Northeast 132nd, Redmond, Washington 98052, (US)

Heidorn, George E., 3211 - 165th Place Northeast, Bellevue, Washington 98008, (US)

LEGAL REPRESENTATIVE:

Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721), Maximilianstrasse 58, 80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 836144 A2 980415 (Basic)  
EP 836144 A3 041110

APPLICATION (CC, No, Date): EP 97109015 970604;

PRIORITY (CC, No, Date): US 671203 960625

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; RO; SI

INTERNATIONAL PATENT CLASS: G06F-017/27

ABSTRACT WORD COUNT: 219

NOTE:

Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9816	895
SPEC A	(English)	9816	5037
Total word count - document A			5932
Total word count - document B			0
Total word count - documents A + B			5932

INTERNATIONAL PATENT CLASS: G06F-017/27

...SPECIFICATION e., the word that the author has mistakenly substituted for the intended word.

When a sentence contains a confused word, natural language parsers have difficulty parsing the sentence. A natural language parser analyzes sentences of a natural language to discern the lexical and syntactic content of the sentences. For example, a chart-based natural language parser retrieves a dictionary entry from a dictionary for each word in the input sentence. The dictionary entry contains a lexical record containing general information about the word and referencing...

18/3,K/9 (Item 9 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00687794

METHOD AND APPARATUS FOR THE MODELING AND QUERY OF DATABASE STRUCTURES  
USING NATURAL LANGUAGE-LIKE CONSTRUCTS  
VERFAHREN UND GERAT ZUR MODELLIERUNG UND ABFRAGE VON DATENBANKENSTRUKTUREN  
MIT NATURLICHEN SPRACHARTIGEN KONSTRUKTIONEN  
PROCEDE ET APPAREIL POUR LA MODELISATION ET L'INTERROGATION DE STRUCTURES  
DE BASE DE DONNEES A L'AIDE DE CONSTRUCTIONS SEMBLABLES AU LANGAGE  
NATUREL

PATENT ASSIGNEE:

MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington  
98052-6399, (US), (Proprietor designated states: all)

INVENTOR:

HARDING, James, Allan, 3516 - 234th Avenue, S.E., Issaquah, WA 98027,  
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MCCORMACK, Jonathan, Ian, 7661 Coal Creek Parkway, S.E., Renton, WA 98059  
, (US)

LEGAL REPRESENTATIVE:

Grunecker, Kinkeldey, Stockmair & Schwanhauser Anwaltssozietat (100721)  
, Maximilianstrasse 58, 80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 715739 A1 960612 (Basic)

EP 715739 A1 980401

EP 715739 B1 020213

WO 9506292 950302

APPLICATION (CC, No, Date): EP 94927247 940824; WO 94US9658 940824

PRIORITY (CC, No, Date): US 112852 930825

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC;  
NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30 ; G06F-017/40

NOTE:

No A-document published by EPO

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200207	1308
CLAIMS B	(German)	200207	1207
CLAIMS B	(French)	200207	1609
SPEC B	(English)	200207	8955

Total word count - document A 0

Total word count - document B 13079

Total word count - documents A + B 13079

INTERNATIONAL PATENT CLASS: G06F-017/30 ...

... G06F-017/40

...SPECIFICATION et. al. teaches a system typical of this "parse and look up" strategy, whereby a natural language query is entered and parsed into its constituent parts. The parser uses both a resident grammar table and a resident terminology dictionary to translate the meaning of individual command words and phrases into the database design language. The difficulty...

18/3,K/12 (Item 12 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00522928

Database retrieval system for responding to natural language queries with corresponding tables

Datenbankauffindungssystem zur Beantwortung natursprachlicher Fragen mit dazugehörigen Tabellen

Système de recouvrement de données pour répondre aux interrogations en langage naturel avec des tables correspondantes

PATENT ASSIGNEE:

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Naganuma, Kazutomo, c/o Mitsubishi Denki, K.K., Johodenshi Kenkyusho,  
1-1, Ofuna 5-chome, Kamakura-shi, Kanagawa-ken, (JP)

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Kimura, Chikako, c/o Mitsubishi Denki, K.K., Johodenshi Kenkyusho, 1-1,  
Ofuna 5-chome, Kamakura-shi, Kanagawa-ken, (JP)

Inaba, Naohito, c/o Mitsubishi Denki, K.K., Johodenshi Kenkyusho, 1-1,  
Ofuna 5-chome, Kamakura-shi, Kanagawa-ken, (JP)

LEGAL REPRESENTATIVE:

Pfenning, Meinig & Partner (100961), Mozartstrasse 17, 80336 Munchen,  
(DE)

PATENT (CC, No, Kind, Date): EP 522591 A2 930113 (Basic)

EP 522591 A3 931103

EP 522591 B1 000322

APPLICATION (CC, No, Date): EP 92111820 920710;

PRIORITY (CC, No, Date): JP 91171217 910711

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT WORD COUNT: 135

NOTE:

Figure number on first page: NONE

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200012	323
CLAIMS B	(German)	200012	296
CLAIMS B	(French)	200012	408
SPEC B	(English)	200012	8386
Total word count - document A			0
Total word count - document B			9413
Total word count - documents A + B			9413

INTERNATIONAL PATENT CLASS: G06F-017/30

...SPECIFICATION in several respects. These distinctions are highlighted below.

The first preferred embodiment also includes a parser 22 for parsing an input natural language query into its constituent parts. The parser 22 uses a grammar table 24 and a terminology dictionary 26. The grammar table 24 holds information for regulating the relation in a Japanese sentence, and the terminology...



18/3,K/16 (Item 16 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00797933 \*\*Image available\*\*

METHOD AND APPARATUS FOR PROCESSING QUERIES  
PROCEDE ET APPAREIL DE TRAITEMENT DE DEMANDES

Patent Applicant/Assignee:

BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY, 81 Newgate Street,  
London EC1A 7AJ, GB, GB (Residence), GB (Nationality), (For all  
designated states except: US)

Patent Applicant/Inventor:

PRESTON Keith Robert, 30 Bury Hill, Woodbridge, Suffolk IP12 1LF, GB, GB  
(Residence), GB (Nationality), (Designated only for: US)

Legal Representative:

DUTTON Erica Lindley Graham (agent), BT Group Legal Services,  
Intellectual Property Dept., Holborn Centre, 8th floor, 120 Holborn,  
London EC1N 2TE, GB,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200131500 A1 20010503 (WO 0131500)

Application: WO 2000GB4081 20001023 (PCT/WO GB0004081)

Priority Application: EP 99308627 19991029

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB  
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA  
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA  
UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 9773

Main International Patent Class: G06F-017/30

Fulltext Availability:

Detailed Description

Detailed Description

... 705, and that a user has entered the query.

j@ Who produces AcmeNet'.

either in natural language or as a conceptual graph .

This query will be processed to produce the following sernterms.

Request Semterms

Who produces AcmeNet ? evt(E...

18/3,K/17 (Item 17 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00787010 \*\*Image available\*\*  
INFORMATION RETRIEVAL BY NATURAL LANGUAGE QUERYING  
RECUPERATION D'INFORMATIONS AU MOYEN D'INTERROGATIONS FORMULEES EN LANGAGE  
NATUREL

Patent Applicant/Assignee:

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KAMEYAMA Megumi (deceased),  
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MYERS Karen Louise, 165 Forest Avenue, #2A, Palo Alto, CA 94301, US,  
RAVICHANDRAN Gopalan, 1929 Crisanto Avenue, #1214, Mountain View, CA  
94040, US,  
STICKEL Mark Edward, 2368 Thompson Court, Mountain View, CA 94043, US,  
TYSON William Mabry, 1345 Sunrise Court, Los Altos, CA 94024, US,

Legal Representative:

ZILKA Kevin J (agent), Carlton, Fields, P.O.Box 721030, San Jose, CA  
95172-1030, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200120500 A2-A3 20010322 (WO 0120500)  
Application: WO 2000US25346 20000915 (PCT/WO US00025346)  
Priority Application: US 99398233 19990917

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

JP

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 12162

Main International Patent Class: G06F-017/30

Fulltext Availability:

Detailed Description  
Claims

English Abstract

A natural language information querying system includes an indexing  
facility configured to automatically generate indices of updated textual  
sources based on one or more predefined grammars and a database coupled  
to the indexing facility to store the indices for subsequent searching

Detailed Description

... information include television feeds, cable feeds, radio feeds, and  
computer generated multimedia feeds. Text-based search engines  
typically cannot search these multimedia sources of information.

2

SUMMARY

A natural language information querying system includes an indexing  
facility configured to automatically generate indices of dynamically  
updated text sources based on a predefined grammar and a database  
coupled to the indexing facility to store the indices.

Implementations of the invention include a query engine coupled to the  
database to respond to a natural language query.

In another aspect, a method for providing information in response to a natural language query, includes extracting information from an updated text corpus based on a predefined I O grammar; and creating a stored indexed text corpus adapted to permit natural language querying.

Implementations of the above aspect include one or more of the following. The method...

...application, among others.

In another aspect, a system for providing information in response to a natural language query includes an information extraction engine adapted to index an automatically updated text corpus based on a predefined grammar; a database coupled to the information extraction engine to store the index output; and a natural language query engine coupled to the database to search the index in response to the natural language...SBC in the Communications Services Sector" or "Did Barnes & Noble buy anyone this year?" The natural language query is parsed by the natural language user interface I IO. A variety of natural language parsers can be used. In one embodiment, the natural language interface I IO executes one or more query grammar files which are analogous to the grammar files 3 1 0 associated with the search...the language of the natural language reply. For instance, a German user can enter a natural language query in German. The German query can be parsed by a grammar set up to parse German queries, and the resulting query can be applied to documents that can be in Japanese, English, and German, or any...

#### Claim

1 A system for providing information in response to a natural language query, comprising: an information extraction engine adapted to index an updated text source based on a predefined grammar;  
a database coupled to the information extraction engine to store the index output; and a natural language query engine coupled to the database to search the index for the text corpus in response to the natural language query.

2 The system of claim 1, further comprising a data acquisition unit coupled to...wherein the client has a pen input engine adapted to convert user handwritings to the natural language query.

18/3,K/24 (Item 24 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00480755 \*\*Image available\*\*  
METHOD AND DEVICE FOR PARSING NATURAL LANGUAGE SENTENCES AND OTHER  
SEQUENTIAL SYMBOLIC EXPRESSIONS  
PROCEDE ET DISPOSITIF D'ANALYSE DE PHRASES DE LANGAGES NATURELS ET AUTRES  
EXPRESSIONS SYMBOLIQUES SEQUENTIELLES

Patent Applicant/Assignee:

BRASH Douglas E,

Inventor(s):

BRASH Douglas E,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9912107 A1 19990311

Application: WO 98US17865 19980828 (PCT/WO US9817865)

Priority Application: US 97922494 19970903

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AU CA CN IL JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 11756

Main International Patent Class: G06F-017/27

Fulltext Availability:

Detailed Description

Detailed Description

... such as computer languages, many effective solutions are available.  
However, the complexity and ambiguity of natural languages have made  
them resistant to efficient parsing .

Automated sentence parsing devices -- usually general purpose digital  
computers -- have operated by matching parts of the input sentence  
with a very large number of stored rules. If the first rule does not  
apply...

18/3,K/26 (Item 26 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00434753 \*\*Image available\*\*

METHOD AND APPARATUS FOR NATURAL LANGUAGE QUERYING AND SEMANTIC SEARCHING  
OF AN INFORMATION DATABASE  
PROCEDE ET DISPOSITIF D'INTERROGATION EN LANGUE NATURELLE ET RECHERCHE  
SEMANTIQUE D'UNE INFORMATION DANS UNE BASE DE DONNEES

Patent Applicant/Assignee:

QUARTERDECK CORPORATION,

Inventor(s):

ULICNY Brian E,

JENSEN John B,

ALLEN Bradley P,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9825217 A1 19980611

Application: WO 97US22943 19971204 (PCT/WO US9722943)

Priority Application: US 96760691 19961204

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AT AU BG BR CA CH CN CZ DE DK ES FI GB HU IL IS JP KR LC LU MK MX NO NZ

PL PT RO RU SE SG SI SK VN YU AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE

Publication Language: English

Fulltext Word Count: 10482

Main International Patent Class: G06F-017/30

Fulltext Availability:

Detailed Description

Detailed Description

... major

components (application programs) that will be described in  
detail below: a user interface, a parser , and a sentence  
evaluator that determines the extent to which a given sentence  
answers a submitted question.

The user begins the process of retrieving  
information by submitting a natural language questions (e.g.,  
English) to the user interface. For example, the user might  
ask, "When...

18/3,K/29 (Item 29 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00219671 \*\*Image available\*\*

COMPUTERISED INFORMATION-RETRIEVAL DATABASE SYSTEMS  
SYSTEMES DE BASE DE DONNEES INFORMATISES POUR LA RECHERCHE DOCUMENTAIRE

Patent Applicant/Assignee:

UNIVERSITY OF STRATHCLYDE,

McGREGOR Douglas Robert,

Inventor(s):

McGREGOR Douglas Robert,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9216906 A1 19921001

Application: WO 92GB446 19920312 (PCT/WO GB9200446)

Priority Application: GB 915367 19910313

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE US

Publication Language: English

Fulltext Word Count: 27140

English Abstract

...in evaluating the cost of the different paths between the entity  
relations in the database conceptual graph to solve the natural  
language ambiguity.

Set	Items	Description
S1	2910	NATURAL() (TEXT? OR LANGUAGE?)
S2	4984	CONCEPTUAL() (STRUCTUR? OR NOTATION? OR GRAPH?) OR CG OR CGS OR KIF OR KIFS OR CGIF?
S3	1446456	QUER? OR RETRIEV? OR INQUIR? OR SEARCH? OR SEEK? OR LOCAT? OR MATCH? OR FIND?
S4	20943	SENTENC? OR GRAMMAR? OR GRAMMATIC? OR STANDARD() STRUCTUR?
S5	864421	TRANSLAT? OR MAP OR MAPPING OR MAPPED OR INDEX? OR TRANSFO- RM? OR CREAT? OR PARS?
S6	1626	S3 AND S4 AND S5
S7	177	S6 AND (S1 OR S2)
S8	0	S6 AND S2
S9	177	S6 AND S1
S10	2	S1 AND S2
S11	497	S2 AND S3
S12	109	S11 AND (S4 OR S5)
S13	13	S12 AND IC=(G06F-007? OR G06F-017?)
S14	129	S2(3N) (S3 OR S4 OR S5)
S15	15	S14 AND IC=(G06F-007? OR G06F-017?)
S16	33	S14 AND MC=(T01?)
S17	50	S10 OR S13 OR S15 OR S16
S18	32	S17 AND IC=G06F?
S19	32	IDPAT (sorted in duplicate/non-duplicate order)
S20	31	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Nov 1976-2004/Aug(Updated 041203)  
(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200482  
(c) 2004 Thomson Derwent

20/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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016136125 \*\*Image available\*\*

WPI Acc No: 2004-294001/200427

XRPX Acc No: N04-233518

Internet-based information search support system stores conceptual structure obtained by analyzing ontology that is extracted corresponding to selected service of browser, with details of properties associated with concepts

Patent Assignee: IBM JAPAN LTD (IBMC ); INT BUSINESS MACHINES CORP (IBMC )

Inventor: MATSUSHITA N; MURAKAMI S; TOYOSHIMA H; TSUCHITANI H

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040054672	A1	20040318	US 2003653512	A	20030902	200427 B
JP 2004094806	A	20040325	JP 2002257970	A	20020903	200427

Priority Applications (No Type Date): JP 2002257970 A 20020903

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20040054672	A1	19	G06F-017/30	
JP 2004094806	A	21	G06F-017/30	

JP 2004094806 A 21 G06F-017/30

Abstract (Basic): US 20040054672 A1

NOVELTY - An extraction unit extracts an ontology corresponding to selected service of browser. A conceptual structure obtained by analyzing ontology, is stored in a memory, with details of properties associated with concepts. One display unit displays the conceptual structure for browser, and another display unit displays details of property associated with concept selected from displayed structure, for browser.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) application server;
- (2) information search method; and
- (3) program product for causing computer to perform information search process.

USE - For providing user interface to define relationship between concepts extracted by analyzing ontology such as entertainment ontology, delivery service ontology and event ontology, and properties, through internet.

ADVANTAGE - Provide user interface to enable inputting user's high level request and to dynamically update ontology depending on service.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart illustrating the information search process.

pp; 19 DwgNo 6/7

Title Terms: BASED; INFORMATION; SEARCH; SUPPORT; SYSTEM; STORAGE; STRUCTURE; OBTAIN; EXTRACT; CORRESPOND; SELECT; SERVICE; DETAIL; PROPERTIES; ASSOCIATE; CONCEPT

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI



20/5/8 (Item 8 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014763302 \*\*Image available\*\*  
WPI Acc No: 2002-584006/200262  
XRPX Acc No: N02-463097

**Automatic knowledge generation system tests groups of concepts or  
sub-concepts represented on conceptual graphs for relevance**

Patent Assignee: 2028 INC (TWOZ-N); DAMLE A (DAML-I)

Inventor: DAMLE A

Number of Countries: 097 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200263493	A1	20020815	WO 2002US3723	A	20020208	200262 B
AU 2002238074	A1	20020819	AU 2002238074	A	20020208	200427
US 20040093328	A1	20040513	WO 2002US3723	A	20020208	200432
			US 2003467251	A	20031212	

Priority Applications (No Type Date): US 2001267463 P 20010208; US  
2003467251 A 20031212

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200263493 A1 E 65 G06F-017/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

AU 2002238074 A1 G06F-017/00 Based on patent WO 200263493

US 20040093328 A1 G06F-007/00

Abstract (Basic): WO 200263493 A1

NOVELTY - System uses logical and semantic structure inherent in  
the document for concept recognition to generate **conceptual graphs** .  
This in turn is used for iterative testing of concept groups as  
possible conceptual centers of semantic relevance, and those concepts  
that are more central or peripheral within a document are determined to  
**create** conceptual relations.

DETAILED DESCRIPTION - There are INDEPENDENT CLAIMS for:

- (1) A system for generating a knowledge base
- (2) A system for automatically generating document summaries
- (3) A system for generating context-dependent document directories
- (4) A system for categorizing documents
- (5) A **search** engine

USE - System is for **search** , **retrieval** , categorization, summary  
and semantic processing of documents.

ADVANTAGE - System is simple and transparent for users to operate.

DESCRIPTION OF DRAWING(S) - The figure shows a flowchart of the  
process flow for summary generation.

pp; 65 DwgNo 14/25

Title Terms: AUTOMATIC; GENERATE; SYSTEM; TEST; GROUP; CONCEPT; SUB;  
CONCEPT; REPRESENT; GRAPH; RELEVANT

Derwent Class: T01; W04

International Patent Class (Main): G06F-007/00 ; G06F-017/00

File Segment: EPI

20/5/12 (Item 12 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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012221059

WPI Acc No: 1999-027165/199903

XRFX Acc No: N99-020940

**Processing and location of information in documents stored on  
information system - uses semantic and conceptual structuring of  
documents and of request and looks for similarities at these levels**

Patent Assignee: BERTIN & CIE (BERU )

Inventor: MARTEAU P F; ZNATY E

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2763715	A1	19981127	FR 976247	A	19970522	199903 B

Priority Applications (No Type Date): FR 976247 A 19970522

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2763715	A1		14	G06F-017/28	

Abstract (Basic): FR 2763715 A

The information processing and **location** procedure draws up a **location** request and applies the request to the set of documents using pre-established rules to obtain the required information.

Each document is processed by an automatic **indexing** system organising the terms in the document in synonym classes associated with the **indexing** classes and establishing lexical and semantic links between the classes. A set of rules are **created** to filter the information, comprising simple semantic rules and conceptual association rules. A similarity function is **created** between the request and the document and used to decide whether document corresponds to the request.

ADVANTAGE - Faster and cheaper **location** of information with improved thoroughness and precision.

Dwg.0/0

Title Terms: PROCESS; **LOCATE** ; INFORMATION; DOCUMENT; STORAGE; INFORMATION  
; SYSTEM; STRUCTURE; DOCUMENT; REQUEST; LEVEL

Derwent Class: T01

International Patent Class (Main): **G06F-017/28**

File Segment: EPI

20/5/19 (Item 19 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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009221998 \*\*Image available\*\*  
WPI Acc No: 1992-349421/199242  
XRPX Acc No: N92-266563

**Computerised information retrieval data base system - transforms user entered English words or phases into formal computer language by solving Stainer graph**

Patent Assignee: UNIV STRATHCLYDE (UYST )  
Inventor: MCGREGOR D R  
Number of Countries: 016 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9216906	A1	19921001	WO 92GB446	A	19920312	199242 B
EP 575386	A1	19931229	EP 92905809	A	19920312	199401
			WO 92GB446	A	19920312	
US 5471611	A	19951128	WO 92GB446	A	19920312	199602
			US 93117106	A	19930910	

Priority Applications (No Type Date): GB 915367 A 19910313  
Cited Patents: 02Jnl.Ref  
Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 9216906	A1	E 183	G06F-015/403	
			Designated States (National): JP US	
			Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL SE	
EP 575386	A1	E 2	G06F-015/403	Based on patent WO 9216906
			Designated States (Regional): DE FR GB IT NL	
US 5471611	A	7	G06F-017/30	Based on patent WO 9216906

Abstract (Basic): WO 9216906 A

The **retrieval** system (10) comprises a data base (13), an input device (11a) and an intelligent interface (12). The data base contains information which is to be **retrieved**. The input device enables a user to use his own **natural language** to input a **query**.

The intelligent interface **transforms** the **natural language query** to the formal computer language of the system. The interface contains processing to solve the Stainer Problem where the **conceptual graph** representing the data base is unrestricted.

ADVANTAGE - Provides new and improved way of solving Stainer Problem

Title Terms: COMPUTER; INFORMATION; **RETRIEVAL** ; DATA; BASE; SYSTEM;  
**TRANSFORM** ; USER; ENTER; ENGLISH; WORD; PHASE; FORMALDEHYDE; COMPUTER;  
LANGUAGE; SOLVING; STAIN; GRAPH

Derwent Class: T01

International Patent Class (Main): **G06F-015/403** ; **G06F-017/30**

File Segment: EPI

20/5/20 (Item 20 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008397112 \*\*Image available\*\*  
WPI Acc No: 1990-284113/199038  
XRPX Acc No: N90-219081

**Method and apparatus for generating sentences - generates sentences from partial structure of stored conceptual structures in accordance with stored rules**

Patent Assignee: TOSHIBA KK (TOKE )  
Inventor: ASAHIOKA Y; HIRAKAWA H; KIMURA M; YOSHIMURA Y  
Number of Countries: 004 Number of Patents: 005  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 387876	A	19900919	EP 90104922	A	19900315	199038 B
EP 387876	A3	19921014	EP 90104922	A	19900315	199340
US 5317510	A	19940531	US 90494117	A	19900314	199421
			US 92851123	A	19920316	
EP 387876	B1	19970514	EP 90104922	A	19900315	199724
DE 69030682	E	19970619	DE 630682	A	19900315	199730
			EP 90104922	A	19900315	

Priority Applications (No Type Date): JP 8963310 A 19890315

Cited Patents: NoSR.Pub; 2.Jnl.Ref; EP 138619

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 387876	A				
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Designated States (Regional): DE FR GB

US 5317510	A	12	G06F-015/30	Cont of application US 90494117
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EP 387876	B1 E	16	G06F-017/28	
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Designated States (Regional): DE FR GB

DE 69030682	E		G06F-017/28	Based on patent EP 387876
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Abstract (Basic): EP 387876 A

The method and appts. for generating sentences generates more natural and easily comprehensible sentences by incorporating the selection of an appropriate choice for the order of words from a number of possible candidates in a process of sentence construction.

Conceptual structures to be used as elements of sentences to be generated are stored (1). Rules to be followed in generating sentences are stored (2). Sentences are generated from the stored conceptual structures in accordance with the stored rules by utilising sizes of partial structures of the conceptual structures specified by the stored rules to determine the structure of the sentence to be generated.

USE/ADVANTAGE - Machine translation system or language processing system e.g. summary generation system, translation telephone system or question answering system. Generates more natural and easily comprehensible sentences. (13pp Dwg.No.1/8)

Title Terms: METHOD; APPARATUS; GENERATE; SENTENCE; GENERATE; SENTENCE; STRUCTURE; STORAGE; STRUCTURE; ACCORD; STORAGE; RULE

Derwent Class: T01; W01

International Patent Class (Main): G06F-015/30 ; G06F-017/28

International Patent Class (Additional): G06F-015/38

File Segment: EPI

20/5/21 (Item 21 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008260625 \*\*Image available\*\*

WPI Acc No: 1990-147626/199019

XRPX Acc No: N90-114380

Natural language understanding data base system - has semantically  
similar lexical entries comprised of entries of verbs, nouns representing  
verbs or adjectives

Patent Assignee: EMHART IND INC (EMHA )

Inventor: HERMANSEN J C; LOATMAN R B; POST S D; YANG C K

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4914590	A	19900403	US 88195237	A	19880518	199019 B

Priority Applications (No Type Date): US 88195237 A 19880518

Abstract (Basic): US 4914590 A

The hybrid **natural language** understanding (NLU) system is  
partic. designed for processing **natural language** text. Primary  
functional components of the NLU system include a preprocessor, a word  
look-up and morphology module which communicates with a lexicon and a  
learning module. A syntactic parser interfaces with an augmented  
transition network (ATN) grammar and a case frame applier, converts the  
syntactic structure into canonical, semantic case frames. A discourse  
analysis component integrates explicit and implied information in the  
text into a **conceptual structure** which represents its meaning.

This structure may be passed onto a knowledge based system, data  
base, to interested analysts or decision makers. Significant feedback  
points are provided such as the case frame applier may notify the  
syntactic parser of a semantically incorrect parse.

USE/ADVANTAGE - Makes data-base more - 'user friendly'.

Dwg.1/57

Title Terms: NATURAL; LANGUAGE; UNDERSTAND; DATA; BASE; SYSTEM; SIMILAR;  
LEXICAL; ENTER; COMPRISE; ENTER; REPRESENT

Derwent Class: T01

International Patent Class (Additional): G06F-015/21 ; G06K-009/62

File Segment: EPI

20/5/27 (Item 27 from file: 347)  
DIALOG(R)File 347:JAPIO  
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07187610 \*\*Image available\*\*  
METHOD AND DEVICE FOR CLASSIFYING DOCUMENT

PUB. NO.: 2002-056009 [JP 2002056009 A]  
PUBLISHED: February 20, 2002 (20020220)  
INVENTOR(s): ISHIKAWA YASUSHI  
SATO TAKANE  
APPLICANT(s): FUJI XEROX CO LTD  
APPL. NO.: 2000-261176 [JP 2000261176]  
FILED: August 30, 2000 (20000830)  
PRIORITY: 2000-157789 [JP 2000157789], JP (Japan), May 29, 2000  
(20000529)  
INTL CLASS: G06F-017/30

#### ABSTRACT

PROBLEM TO BE SOLVED: To enable a user to specify a document in accordance with classification by generating the classification following a viewpoint.

SOLUTION: A word is designated, **retrieval** is performed and a document group to be an object is selected. The document is subjected to a morphological analysis, words are extracted and a word under consideration is selected on the basis of the number of frequencies. The cooccurrence relations (cooccurrence graph) of the word under consideration are detected in the **sentence** unit of each document. A cooccurrence graph included in many **sentences** is selected as a **conceptual graph**, and the conceptual vector of a document to be written is decided as to whether to include the **conceptual graph**. A document is classified and displayed according to the conceptual vector so that the document can be selected.

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Set	Items	Description
S1	58734	NATURAL() (TEXT? OR LANGUAGE?)
S2	5902	CONCEPT?() (STRUCTUR? OR NOTATION? OR GRAPH?) OR KIF OR KIFS OR CGIF?
S3	4004362	QUERY OR QUERIES OR RETRIEV? OR INQUIR? OR SEARCH OR SEARC- HES OR SEARCHING OR SEARCHENGINE? OR SEEK? OR LOCAT? OR MATCH? OR FIND OR FINDS OR FINDING
S4	104305	SENTENC? OR GRAMMAR? OR GRAMMATIC? OR STANDARD()STRUCTUR?
S5	5089666	TRANSLAT? OR MAP OR MAPPING OR MAPPED OR INDEX? OR TRANSFO- RM? OR CREAT? OR PARS?
S6	5864	S3 AND S4 AND S5
S7	1870	S6 AND (S1 OR S2)
S8	46	S6 AND S2
S9	38	S1(5N)S2 AND S3
S10	23	S9 AND S5
S11	59	S8 OR S10
S12	45	RD (unique items)
S13	35	S12 NOT PY>2000
S14	35	S13 NOT PD=20001208:20021208
S15	35	S14 NOT PD=20021208:20050111
File	8: Ei Compendex(R) 1970-2005/Dec W4	(c) 2005 Elsevier Eng. Info. Inc.
File	35: Dissertation Abs Online 1861-2004/Dec	(c) 2004 ProQuest Info&Learning
File	65: Inside Conferences 1993-2005/Jan W1	(c) 2005 BLDSC all rts. reserv.
File	2: INSPEC 1969-2004/Dec W2	(c) 2004 Institution of Electrical Engineers
File	94: JICST-EPlus 1985-2004/Nov W4	(c) 2004 Japan Science and Tech Corp(JST)
File	111: TGG Natl. Newspaper Index(SM) 1979-2005/Jan 04	(c) 2005 The Gale Group
File	6: NTIS 1964-2004/Dec W4	(c) 2004 NTIS, Intl Cpyrght All Rights Res
File	144: Pascal 1973-2004/Dec W1	(c) 2004 INIST/CNRS
File	434: SciSearch(R) Cited Ref Sci 1974-1989/Dec	(c) 1998 Inst for Sci Info
File	34: SciSearch(R) Cited Ref Sci 1990-2005/Jan W1	(c) 2005 Inst for Sci Info
File	99: Wilson Appl. Sci & Tech Abs 1983-2004/Nov	(c) 2004 The HW Wilson Co.
File	95: TEME-Technology & Management 1989-2004/Jun W1	(c) 2004 FIZ TECHNIK

15/5/1 (Item 1 from file: 8)  
DIALOG(R) File 8: Ei Compendex(R)  
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05832332 E.I. No: EIP01246536428

**Title:** Automatically generating OLAP schemata from conceptual graphical models

**Author:** Hahn, K.; Sapia, C.; Blaschka, M.

**Corporate Source:** FORWISS, D-81667 Munich, Germany

**Conference Title:** 9th International Conference on Information and Knowledge Management (CIKM 2000)

**Conference Location:** McLean, VA, United States **Conference Date:** 20001110

**E.I. Conference No.:** 58098

**Source:** International Conference on Information and Knowledge Management, Proceedings 2000. p 9-16

**Publication Year:** 2000

**Language:** English

**Document Type:** CA; (Conference Article) **Treatment:** T; (Theoretical)

**Journal Announcement:** 0106W3

**Abstract:** Generating tool specific schemata and configuration information for OLAP database tools from **conceptual graphical** models is an important prerequisite for a comprehensive tool support for computer aided data warehouse engineering (CAWE). This paper describes the design and implementation of such a generation component in the context of our BabelFish data warehouse design tool environment. It identifies the principal issues that are involved in the design and implementation of such a component and discusses possible solutions. The paper lists typical mismatches between the data model of commercial OLAP tools and **conceptual graphical** modeling notations, and proposes methods to overcome these expressive differences during the generation process. Further topics are the use of graph **grammars** for specifying and **parsing** graphical MD schema descriptions and the integration of the generation process into a metadata centered modeling tool environment. 13 Refs.

**Descriptors:** \*Online **searching** ; Graphic methods; Mathematical models; Computer aided engineering; Data warehouses; Computer software

**Identifiers:** Online analytical processing schemata; **Conceptual graphical** models; Computer aided data warehouse engineering; Conceptual design

**Classification Codes:**

903.3 (Information Retrieval & Use); 723.5 (Computer Applications); 921.6 (Numerical Methods)

903 (Information Science); 723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics)

90 (ENGINEERING, GENERAL); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)



15/5/3 (Item 3 from file: 8)  
DIALOG(R)File 8:EI Compendex(R)  
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04052445 E.I. No: EIP95012533150

**Title: Users conceptual views on medical information databases**

Author: Joubert, Michel; Fieschi, Marius; Robert, Jean-Jacques;  
Tafazzoli, Ali

Corporate Source: CERTIM, Marseille, Fr

Source: International Journal of Biomedical Computing 37 2 Oct 1994. p  
93-104

Publication Year: 1994

CODEN: IJBCBT ISSN: 0020-7101

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 9504W1

Abstract: As information databases we consider all the kinds of  
information repositories that are handled by computer systems. When  
querying very large information databases, the end-users are often faced  
with the problem to **parse** their questions efficiently into the **query**  
languages of the computer systems. **Conceptual graphs** were initially  
designed for **natural language** analysis and understanding. Due to their  
closeness to semantic networks, their expressiveness is powerful enough to  
be applied to knowledge representation and use by computer systems. This  
work demonstrates that conceptual graphs are a suitable means to model both  
the information in patient databases and the **queries** to these databases,  
and that operations on graphs can compute the pattern **matching** process  
needed to provide the answers. A prototype that exploits this model is  
presented. Experiments have been made with the material furnished by the  
Unified Medical Language System project (version 2, 1992) of the National  
Library of Medicine, USA. (Author abstract) 23 Refs.

Descriptors: \*Database systems; Biomedical engineering; **Query** languages  
; Natural language processing systems; Computer systems; Pattern  
recognition; Information **retrieval** ; Computer graphics

Identifiers: Conceptual graphs; Unified medical language system;  
Biomedical computing

Classification Codes:

723.3 (Database Systems); 723.5 (Computer Applications); 723.2 (Data  
Processing); 903.3 (Information Retrieval & Use); 461.1 (Biomedical  
Engineering)

723 (Computer Software); 903 (Information Science); 461  
(Biotechnology)

72 (COMPUTERS & DATA PROCESSING); 90 (GENERAL ENGINEERING); 46  
(BIOENGINEERING)

15/5/4 (Item 4 from file: 8)  
DIALOG(R) File 8: Ei Compendex(R)  
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03811032 E.I. No: EIP94021218748

**Title: Graph-based retrieval of information in hypertext systems**

Author: Quintana, Yuri; Kamel, Mohamed; Lo, Andrew

Corporate Source: Univ of Waterloo, Waterloo, Ont, Can

Conference Title: Proceedings of the 10th Annual International Conference  
on Systems Documentation - SIGDOC'92

Conference Location: Ottawa, Ont, Can Conference Date:  
19921013-19921016

Sponsor: ACM; SIGDOC

E.I. Conference No.: 19819

Source: Proc 10 Annu Int Conf Syst Doc SIGDOC 92 1993. Publ by ACM, New  
York, NY, USA. p 157-168

Publication Year: 1993

ISBN: 0-89791-532-1

Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review);  
A; (Applications)

Journal Announcement: 9404W3

Abstract: Current hypertext systems have no intelligent means for  
**finding** specific information. When **searching** for specific information  
(as opposed to browsing), users can get disoriented in large hypertext  
documents and may end up following a path that takes them further away from  
the information they **seek**. This paper describes an information **retrieval**  
system called HRS (Hyper-text **Retrieval** System) that allows users to  
**retrieve** information in hypertext documents based on its semantic content.  
HRS is comprised of an authoring system, a browser, and a graph-based  
information **retrieval** facility. The graph-based **retrieval** facility  
allows users to **retrieve** specific information in hypertext documents by  
posing English language **queries**. The **retrieval** facility is based on the  
use of Conceptual Graphs, a knowledge representation scheme. The English  
language **queries** posed by users are automatically converted to Conceptual  
Graphs by a **parser**. The information in hypertext documents is also  
represented using Conceptual Graphs. **Query** processing is treated as a  
graph **matching** process, and **retrieval** is performed by a semantic based  
**search**. The technology is useful for **retrieval** of information in large  
knowledge domains where a user needs to **find** specific information and  
does not know the organisation of the hypertext document or the words used  
in the document. The paper concludes that natural language **retrieval** of  
information in hypertext documents can provide users with both the browsing  
capabilities of hypertext and the semantic **search** capabilities of natural  
language **query** processing. (Author abstract) 38 Refs.

Descriptors: \*Information **retrieval** systems; Graphic methods; Knowledge  
based systems; **Query** languages; Information science

Identifiers: Hypertext systems; **Conceptual graphs**; **Natural**  
**language query** processing; Graph **matching**; Semantic **search**; Browsing  
Classification Codes:

723.4 (Artificial Intelligence); 723.5 (Computer Applications)

716 (Radar, Radio & TV Electronic Equipment); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING)

15/5/6 (Item 2 from file: 35)  
DIALOG(R)File 35:Dissertation Abs Online  
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01622381 ORDER NO: AADNQ-24293

**FROM A CHILDREN'S FIRST DICTIONARY TO A LEXICAL KNOWLEDGE BASE OF  
CONCEPTUAL GRAPHS ( NATURAL LANGUAGE PROCESSING, MACHINE READABLE  
DICTIONARY)**

Author: BARRIERE, CAROLINE  
Degree: PH.D.  
Year: 1997  
Corporate Source/Institution: SIMON FRASER UNIVERSITY (CANADA) (0791)  
Adviser: FRED POPOWICH  
Source: VOLUME 58/12-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 6657. 326 PAGES  
Descriptors: COMPUTER SCIENCE ; INFORMATION SCIENCE  
Descriptor Codes: 0984; 0723  
ISBN: 0-612-24293-5

This thesis aims at building a Lexical Knowledge Base (LKB) that will be useful to a Natural Language Processing (NLP) system by extracting information from a Machine Readable Dictionary (MRD). Our source of knowledge is the American Heritage First Dictionary (AHFD) which contains 1800 entries and is designed for children of age six to eight learning the structure and the basic vocabulary of their language. Using a children's dictionary allows us to restrict our vocabulary, but still work on general knowledge about day to day concepts and actions.

Our Lexical Knowledge Base contains information extracted from the AHFD and represented using the **Conceptual Graph** (CG) formalism. The graph definitions explicitly give the information contained in all the noun and verb definitions from the AHFD. Each **sentence** of each definition is tagged, **parsed** and automatically **transformed** into a **conceptual graph**. The type hierarchy, extracted automatically from the definitions, groups all the nouns and verbs in the dictionary into a taxonomy. Covert categories will be discovered among the definitions and will complement the type hierarchy in its role for establishing concept similarity. Covert categories can be thought of as concepts not associated to a dictionary entry, such as "writing instrument" or "device giving time". They allow grouping of words based on different criteria than a common hypernym, and therefore augment the space to explore for **finding** similarity among concepts. The relation hierarchy is built manually which groups into subclasses/superclasses the relations used in our CG representation of definitions. The relations can be prepositions such as in, on or with or deeper semantic relations such as part-of, material or instrument. Concept clusters are constructed automatically around a trigger word to put it into a larger context. Its graph representation is joined to the graph representations of other words in the dictionary that are related to it. The set of related words forms a concept cluster and their graph representation, showing all the relations between them and other related words, is a Concept Clustering Knowledge Graph.

One important aspect of the thesis is the underlying thread of **finding** similarity through concept and graph comparison as a general way of processing information.

The ideas presented in this thesis are implemented in a system ARC-Concept. We present and discuss the results obtained.  
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15/5/7 (Item 3 from file: 35)  
DIALOG(R)File 35:Dissertation Abs Online  
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01613370 ORDER NO: NOT AVAILABLE FROM UNIVERSITY MICROFILMS INT'L.  
**CONTROL OF A NAVIGATING RATIONAL AGENT BY NATURAL LANGUAGE (ARTIFICIAL  
INTELLIGENCE, CONCEPTUAL GRAPH, SEMANTICS)**

Author: MANN, GRAHAM  
Degree: PH.D.  
Year: 1997  
Corporate Source/Institution: UNIVERSITY OF NEW SOUTH WALES (AUSTRALIA)  
(0423)  
Source: VOLUME 58/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 5486.  
Descriptors: COMPUTER SCIENCE ; ARTIFICIAL INTELLIGENCE  
Descriptor Codes: 0984; 0800

BEELINE is an experimental computer program that aims to understand raw, paragraph-length natural language instructions and use them to navigate in a simulation of the physical world. The work describes the design, construction and testing of four components which together comprise BEELINE: A **conceptual graph** reasoning engine (CG Processor), an actor-based conceptual **parser** (SAVVY), a goal- **seeking** rational agent heuristic (NAVI), and a physical world simulation (UNSWorld).

In developing BEELINE, some difficult problems of artificial intelligence are directly confronted. To overcome the system's potential disengagement from the world, the thesis offers theoretical and practical solutions to the problems of building, situating and grounding **conceptual graph** knowledge representations of the world and the language used to describe it. It is argued that language cannot be properly understood as an abstraction, but that it must be considered as only one source of knowledge informing a more broadly-defined cognitive system immersed in an environment. To be robust enough to deal with unprocessed text, the **parser** was designed to accept the potential contribution of, but not depend on, a syntactical chart **parser** using a constituent **grammar**. Semantic **parsing** processes are to be kept manageable by arbitrary bounding of text handling and inference. A new "four-pole" theory of semantics combines these elements into a model of knowledge interaction. The theory is then extended to allow behavioural control of the integrated rational agent, which interprets and executes the conceptual output of the **parser**.

The active components are evaluated on engineering criteria, and their strengths and weaknesses are discussed. They are found to function adequately for the purpose at hand but improvements are suggested. By virtue of the agent's placement in a simulated environment, the machine's language capability can also be operationally evaluated using behavioural methods. Statistical measurements in a number of trials show that with real natural language directions, the agent can **find** a destination significantly more efficiently than it could in identical tasks without them. The evaluation experiments are examined critically with a view to improved future language-using agents.

15/5/9 (Item 5 from file: 35)  
DIALOG(R)File 35:Dissertation Abs Online  
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01338847 ORDER NO: AAD94-07847

**A SHELL FOR DOMAIN INDEPENDENT INTELLIGENT HELP SYSTEMS**

Author: YANG, GI-CHUL

Degree: PH.D.

Year: 1993

Corporate Source/Institution: UNIVERSITY OF MISSOURI - KANSAS CITY (0134  
)

Source: VOLUME 54/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 5271. 156 PAGES

Descriptors: COMPUTER SCIENCE; LANGUAGE, LINGUISTICS

Descriptor Codes: 0984; 0290

The theory, design, and implementation of a shell for domain independent intelligent help systems, along with a survey of some intelligent help systems, is presented in this document. Typical intelligent help systems are dependent on the application domains since they have concrete low-level knowledge representation language for their knowledge base. This concrete language works in a limited area only, confining the flexibility of the knowledge base and causing a problem when the application domain is changed. In order to solve this problem, a system must have a flexible knowledge base. The proposed knowledge base incorporates two levels: a logical level which enables reasoning, and a heuristic level which preserves efficiency and flexibility.

The proposed system is called UNiversal HELP (UNIHELP). UNIHELP comprises the two levels and solves the knowledge acquisition bottleneck problem by using Direct Knowledge Acquisition Mechanism (DKAM) which works on both the logical and heuristic level. Consequently, it maintains a flexible knowledge base called UNiversal Knowledge Base (UNIK). UNIK can be accessed from both levels of UNIHELP to achieve the maximum efficiency in terms of speed and quality of the answer. Unlike the knowledge acquisition mechanism which uses a fixed script, DKAM works for learning completely new concepts and allows us to put natural intelligence on the artificial intelligence systems without separation.

Natural language query is translated into conceptual graphs and it is used as a key for retrieving the corresponding plan from the knowledge base. The retrieving is done by matching an input conceptual graph to the conceptual graphs in the knowledge base. An efficient conceptual graph matching algorithm is presented in this document. The request understander which uses a deterministic parsing technique, has advantages of both a knowledge-based system and a grammar-based system. An inferencing scheme which can be used in a distributed computing environment is presented. This way the system can be extended into a distributed help system.

A prototype shell is presented to demonstrate some salient features of the type of proposed intelligent help system in this thesis.

15/5/17 (Item 5 from file: 2)  
DIALOG(R)File 2:INSPEC  
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5051713 INSPEC Abstract Number: C9510-6160B-022

**Title: The representation of natural language's semantics in multidatabase conceptual modelling**

Author(s): Galatescu, A.

Author Affiliation: Res. Inst. for Inf., Bucharest, Romania

Conference Title: International Symposium of Economic Informatics p.  
248-53

Publisher: Acad. Econ. Studies, Bucharest, Romania

Publication Date: 1995 Country of Publication: Romania ix+693 pp.

Conference Title: International Symposium of Economic Informatics

Conference Sponsor: OMNILOGIC Romania; Computerland; et al

Conference Date: 10-13 May 1995 Conference Location: Bucharest,  
Romania

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: During multidatabase (MDB) conceptual modelling, besides the main difficulties that usually appear in DB modelling, the designer has to solve new specific problems. These new aspects entail the necessity of overloading an existing conceptual model with a great amount of new information and capabilities dedicated to data distribution. Such a model becomes unattractive to the MDB designers and difficult to be used even by the DB specialists. To overcome a part of these problems that we have to solve during the development of a MDB CASE environment, we realized that the success of our project depends on: 1) the **creation** of a conceptual model that naturally unifies the underlying capabilities of more data models as well as the needed distribution capabilities; 2) a formalism to facilitate the MDB modelling knowledge acquisition and representation, as much as possible close to the human reasoning and understanding; 3) a tool whose capabilities allow us to implement this formalism in a very attractive way; 4) a tool to store, **retrieve** and process a great volume of information. We present our conclusions on 2), specifically on the metamodel we are going to implement for representing a multidatabase object-oriented model, previously **created** as 1). We perform a parallel analysis between the main lexical structures (and their semantic features) met in the natural language (NL) representation and the semantics of the classical concepts used in the **conceptual graph** (CG) theory as well as the semantics of the new concepts for conceptual modelling. (10 Refs)

Subfile: C

Descriptors: directed graphs; distributed databases; **grammars** ; natural languages; object-oriented databases; programming environments

Identifiers: natural language semantics; multidatabase conceptual modelling; data distribution; CASE environment; conceptual model; data models; knowledge acquisition; knowledge representation; multidatabase object-oriented model; lexical structures; semantic features; **conceptual graph**

Class Codes: C6160B (Distributed databases); C6180N (Natural language processing); C4210L (Formal languages and computational linguistics); C6160J (Object-oriented databases)

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15/5/20 (Item 8 from file: 2)  
DIALOG(R) File 2:INSPEC  
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4916804 INSPEC Abstract Number: C9505-7820-009

Title: **Extracting explicit and implicit knowledge from natural language texts**

Author(s): Sykes, J.T.; Konstantinou, V.; Morse, P.L.R.

Author Affiliation: Sch. of Comput. Sci., Westminster Univ., London, UK  
p.97-112

Editor(s): Tepfenhart, W.M.; Dick, J.P.; Sowa, J.F.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1994 Country of Publication: West Germany viii+330  
pp.

ISBN: 3 540 58328 9

Conference Title: Second International Conference on Conceptual Structures, ICCS'94. Conceptual Structures: Current Practices

Conference Sponsor: Univ. Laval; Unisys; AAAI; Univ. Maryland Inst. Adv. Comput. Studies; et al

Conference Date: 16-20 Aug. 1994 Conference Location: College Park, MD, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The use of **conceptual graphs** in information **retrieval** and **natural language** applications has grown rapidly in popularity and sophistication over the past few years. Question answering/ **retrieval** systems and the linguistic domains are making considerable headway. However, the problem of acquiring, and subsequently reasoning with, conceptual information directly from normative natural language texts is still a considerable problem, for much necessary control information is found to be absent from the written text. The paper outlines one particular system, (NOMOS) (Giannetti et al.) designed for the **retrieval** of conceptual data directly from **natural language** texts, using the **conceptual graph** formalism for its representation. It also describes some of the difficulties encountered when the knowledge content of the **retrieved** data was validated by **mapping** it directly into an expert system shell (Advisor), although most of the difficulties described would generally apply to any attempt to use purely textual data as the source of a knowledge base. It is our contention that, although the expressive power of the conceptual graph formalism is formidable for knowledge representation, simply representing the textual information within normative texts is insufficient to enable inferencing to be performed. (11 Refs)

Subfile: C

Descriptors: inference mechanisms; information **retrieval** ; knowledge acquisition; knowledge representation; natural languages; word processing

Identifiers: implicit knowledge; natural language texts; conceptual graphs; information **retrieval** ; natural language applications; question answering/ **retrieval** systems; linguistic domains; conceptual information; control information; NOMOS; conceptual data **retrieval** ; knowledge content; expert system shell; Advisor; knowledge base; expressive power; knowledge representation; normative texts; inferencing; knowledge acquisition

Class Codes: C7820 (Humanities computing); C6180N (Natural language processing); C6130D (Document processing techniques); C7250R (Information retrieval techniques); C6170K (Knowledge engineering techniques)

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15/5/23 (Item 11 from file: 2)  
DIALOG(R)File 2:INSPEC  
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04257349 INSPEC Abstract Number: C9211-6180N-022

**Title:** Integration of conceptual graphs and government-binding theory

**Author(s):** McHale, M.L.; Myaeng, S.H.

**Author Affiliation:** Software Technol. Div., Rome Lab., Griffiss Air Force Base, NY, USA

**Journal:** Knowledge-Based Systems vol.5, no.3 p.213-22

**Publication Date:** Sept. 1992 **Country of Publication:** UK

**CODEN:** KNSYET **ISSN:** 0950-7051

**U.S. Copyright Clearance Center Code:** 0950-7051/92/030213-10\$3.00

**Language:** English **Document Type:** Journal Paper (JP)

**Treatment:** Practical (P); Theoretical (T)

**Abstract:** While much research in natural language processing (NLP) has been devoted to microlevel analyses of constrained text, many applications, such as machine **translation**, message understanding and information **retrieval**, call for capabilities in the understanding of unconstrained text. The paper discusses one step toward this type of NLP system: the integration of Chomsky's government-binding (GB) theory of syntax (N. Chomsky, 1981) with Sowa's **conceptual - graph** (CG) theory of knowledge representation (J. Sowa, 1984) GB theory provides a **parsing** technology that surpasses that of phrase-structure **grammars**, and the CG theory offers a formalism that is suitable for handling natural-language semantics and pragmatics. Their marriage is most natural and synergistic. Not only can their respective strengths be enjoyed, but also most intermediate steps required to build GCs from **parse** trees can be eliminated, because of the fact that, when it is done independently, a great deal of common knowledge is required both for generating **parse** trees with a GB-based **parser** and for **translating** a **parse** tree into a CG representation. (28 Refs)

**Subfile:** C

**Descriptors:** **grammars**; knowledge representation; language **translation**; linguistics; natural languages

**Identifiers:** text understanding; government-binding theory; natural language processing; machine **translation**; message understanding; information **retrieval**; **conceptual - graph**; knowledge representation; **parsing**; phrase-structure **grammars**

**Class Codes:** C6180N (Natural language processing); C7820 (Humanities)



15/5/25 (Item 13 from file: 2)  
DIALOG(R)File 2:INSPEC  
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04216530 INSPEC Abstract Number: C9209-6180N-024

Title: **Natural language processing and semantical representation of medical texts**

Author(s): Baud, R.H.; Rassinoux, A.-M.; Scherrer, J.-R.

Author Affiliation: Centre d'Inf. Hospitaliere, Univ. State Hospital of Geneva, Switzerland

Journal: Methods of Information in Medicine vol.31, no.2 p.117-25

Publication Date: June 1992 Country of Publication: West Germany

CODEN: MIMCAI ISSN: 0026-1270

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: For medical records, the challenge is natural language processing (NLP) of texts, and the construction of an adequate knowledge representation. The article describes the components of an NLP system, which is currently being developed in the Geneva Hospital, and within the European Community's AIM programme. They are: a **natural language analyser**, a **conceptual graphs** builder, a data base storage component, a **query** processor, a natural language generator and, in addition, a **translator**, a diagnosis encoding system and a literature **indexing** system. Taking advantage of a closed domain of knowledge, defined around a medical specialty, a method called proximity processing has been developed. In this situation no **parser** of the initial text is needed, and the system is based on semantical information of near words in **sentences**. The benefits are: easy implementation, portability between languages, robustness towards badly-formed **sentences**, and a sound representation using **conceptual graphs**. (17 Refs)

Subfile: C

Descriptors: knowledge representation; medical computing; natural languages

Identifiers: semantical representation; medical texts; medical records; natural language processing; knowledge representation; natural language analyser; **conceptual graphs** builder; data base storage component; **query** processor; **translator**; diagnosis encoding system; literature **indexing** system; proximity processing; badly-formed **sentences**; **conceptual graphs**

Class Codes: C6180N (Natural language processing); C7140 (Medical administration)

15/5/34 (Item 1 from file: 95)  
DIALOG(R)File 95:TEME-Technology & Management  
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00614518 E92103712026

**Kaleidoscope: A model-based grammar -driven menu interface for databases**  
(Kaleidoscope: eine modellbasierte grammatik-gesteuerte Menue-Schnittstelle fuer Datenbanken)  
Sang Kyun Cha  
Stanford Univ., USA  
Report of Stanford University, Department of Computer Science, v17, n9, ppl-127, 1992  
Document type: Report Language: English  
Record type: Abstract

ABSTRACT:

This thesis presents the approach of Kaleidoscope, a cooperative **query** interface for relieving the user's burden of learning and recalling. The objective of this **grammar** -driven menu guidance is to enable users to construct a meaningful **query** by recognizing choices that **match** their mental **query**. The central thesis of this work is that a data model plays a crucial role in the Kaleidoscope's style of interfaces, as a **query** language conveys the underlying conceptualization of data to the user. The design of **grammar**, lexicon, and **query translator** follows a formally defined data model. The major technical contribution of this thesis is a data model formalizing the **conceptual structure** of restricted English **queries**.

DESCRIPTORS: **GRAMMARS**; COMPUTER INTERFACES; DATA BANK; CONTROL; MENUS; **QUERY** LANGUAGES; SEMANTICS; DATA MODELS; USERS; ERGONOMICS; MAN MACHINE SYSTEMS; DISSERTATIONS

IDENTIFIERS: menuegesteuete Datenbankschnittstelle; Grammatik

Set	Items	Description
S1	360	NATURAL() (TEXT? OR LANGUAGE?)
S2	4	CONCEPT?() (STRUCTUR? OR NOTATION? OR GRAPH?) OR KIF OR KIFS OR CGIF?
S3	16281	QUERY OR QUERIES OR RETRIEV? OR INQUIR? OR SEARCH OR SEARC- HES OR SEARCHING OR SEARCHENGINE? OR SEEK? OR LOCAT? OR MATCH? OR FIND OR FINDS OR FINDING
S4	221	SENTENC? OR GRAMMAR? OR GRAMMATIC? OR STANDARD() STRUCTUR?
S5	19914	TRANSLAT? OR MAP OR MAPPING OR MAPPED OR INDEX? OR TRANSFO- RM? OR CREAT? OR PARS?
S6	49	S3 AND S4 AND S5
S7	10	S6 AND (S1 OR S2)
S8	0	S6 AND S2
S9	10	S6 AND S1
S10	0	S1 AND S2
S11	2	S2 AND S3
S12	1	S11 AND (S4 OR S5)
S13	12	S7 OR S9 OR S11
S14	12	S13 NOT PY>2000
S15	5	S14 NOT PD>20001218

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15/3,K/4

DIALOG(R)File 256:TecInfoSource  
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00119110 DOCUMENT TYPE: Review

PRODUCT NAMES: X-Portal (772682)

TITLE: Web search relief ahead; here's how results become more relevant  
AUTHOR: Tweney, Dylan  
SOURCE: InfoWorld, v21 n38 p50(1) Sep 20, 1999  
ISSN: 0199-6649  
HOMEPAGE: <http://www.infoworld.com>

RECORD TYPE: Review  
REVIEW TYPE: Review  
GRADE: A

REVISION DATE: 20020330

TITLE: Web search relief ahead; here's how results become more relevant

KCSL's X-Portal, a Windows application, **creates** a virtual reference desk that answers users' questions from the Web. No longer need users suffer with sluggish, inaccurate, complicated software sold as '**search** facilitators.' X-Portal developed from Ilia Kaufman's work on development of spell- and **grammar** -checking components of Microsoft Word, WordPerfect and other products. Kaufman, president of KCSL, applied **natural language** processing abilities to **query** interpretation and results ranking. X-Portal includes 22 reference works, including a dictionary, a thesaurus ...

...These references are stored on the user's hard disk in compressed files. When a **query** is entered, X-Portal begins by **searching** through these resources and shows results immediately. If the user wants a definition or less than a page of information, it is returned instantly. The program continues **searching** relevant Web pages **located** by **search** engines, including HotBot, AltaVista, and Yahoo!. X-Portal analyzes relevance and the editorial quality of pages, using internal reference works as a yardstick. **Search** results are updated, with the most relevant Web pages inserted as discovered at the top of this list. Surfers can depend on receiving a highly filtered list of **search** results, and will **find** X-Portal's research abilities equally effective for both general knowledge and technical information.

DESCRIPTORS: Content Providers; Encyclopedias & Almanacs; IBM PC & Compatibles; Information **Retrieval** ; Internet; **Natural Languages** ; **Search** Engines; Windows

Set	Items	Description
S1	523	AU=(CHA K? OR CHA, K?)
S2	664	AU=(CHUNG E? OR CHUNG, E?)
S3	6208	AU=(LIM S? OR LIM, S?)
S4	6470	AU=(KANG H? OR KANG, H?)
S5	0	S1 AND S2 AND S3 AND S4
S6	410	(S1 OR S2 OR S3 OR S4) AND (NATURAL()LANGUAGE? OR LEXICOG? OR LINGUIST? OR MORPHOLOG? OR SEMANTIC? OR GRAMMAR? ? OR GRAM- MATIC?)
S7	62	S6 AND (SEARCH? OR SEEK? OR RETRIEV? OR ENGINE? OR FIND? OR LOCAT? OR QUERY OR QUERIES)
S8	5	S6 AND (NATURAL()LANGUAGE?)
S9	62	S7 OR S8
S10	53	RD (unique items)
S11	22	S10 NOT PY>2000
File	2:INSPEC 1969-2004/Dec W2	(c) 2004 Institution of Electrical Engineers
File	4:INSPEC 1983-2004/Dec W2	(c) 2004 Institution of Electrical Engineers
File	6:NTIS 1964-2004/Dec W4	(c) 2004 NTIS, Intl Cpyrght All Rights Res
File	8:Ei Compendex(R) 1970-2005/Dec W4	(c) 2005 Elsevier Eng. Info. Inc.
File	34:SciSearch(R) Cited Ref Sci 1990-2005/Jan W1	(c) 2005 Inst for Sci Info
File	35:Dissertation Abs Online 1861-2004/Dec	(c) 2004 ProQuest Info&Learning
File	65:Inside Conferences 1993-2005/Jan W1	(c) 2005 BLDSC all rts. reserv.
File	636:Gale Group Newsletter DB(TM) 1987-2005/Jan 05	(c) 2005 The Gale Group
File	148:Gale Group Trade & Industry DB 1976-2005/Jan 05	(c)2005 The Gale Group
File	275:Gale Group Computer DB(TM) 1983-2005/Jan 05	(c) 2005 The Gale Group
File	674:Computer News Fulltext 1989-2004/Dec W2	(c) 2004 IDG Communications

11/5/5 (Item 1 from file: 8)  
DIALOG(R)File 8: Ei Compendex(R)  
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05811910 E.I. No: EIP01204959259

Title: **Automated approach for retrieving hierarchical data from HTML tables**

Author: **Lim, Seung-Jin ; Ng, Yiu-Kai**

Corporate Source: Brigham Young Univ, Provo, UT, United States

Conference Title: Proceedings of the 1999 8th International Conference on Information Knowledge Management (CIKM'99)

Conference Location: Kansas City, MO, USA Conference Date: 19991102-19991106

Sponsor: ACM

E.I. Conference No.: 56198

Source: International Conference on Information and Knowledge Management, Proceedings 1999. ACM, New York, NY, United States

Publication Year: 1999

CODEN: 002176 ISBN: 1581131461

Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review)

Journal Announcement: 0105W2

Abstract: Among the HTML elements, HTML tables left bracket RHJ98 right bracket encapsulate hierarchically structured data (hierarchical data in short) in a tabular structure. HTML tables do not come with a rigid schema and almost any forms of two-dimensional tables are acceptable according to the HTML **grammar**. This relaxation complicates the process of **retrieving** hierarchical data from HTML tables. In this paper, we propose an automated approach for **retrieving** hierarchical data from HTML tables. The proposed approach constructs the content tree of an HTML table, which captures the intended hierarchy of the data content of the table, without requiring the internal structure of the table to be known beforehand. Also, the user of the content tree does not deal with HTML tags while **retrieving** the desired data from the content tree. Our approach can be employed by (i) a **query** language written for **retrieving** hierarchically structured data, extracted from either the contents of HTML tables or other sources, (ii) a processor for converting HTML tables to XML documents, and (iii) a data warehousing repository for collecting hierarchical data from HTML tables and storing materialized views of the tables. The time complexity of the proposed **retrieval** approach is proportional to the number of HTML elements in an HTML table. (Author abstract) 10 Refs.

Descriptors: \*Information **retrieval** systems; Automation; HTML; **Query** languages; Data storage equipment

Identifiers: Data warehousing

Classification Codes:

723.1.1 (Computer Programming Languages)

903.3 (Information Retrieval & Use); 723.5 (Computer Applications);

723.1 (Computer Programming); 722.1 (Data Storage, Equipment & Techniques)

903 (Information Science); 723 (Computer Software, Data Handling & Applications); 731 (Automatic Control Principles & Applications); 722 (Computer Hardware)

90 (ENGINEERING, GENERAL); 72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

11/5/7 (Item 3 from file: 8)  
DIALOG(R)File 8: Ei Compendex(R)  
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04766075 E.I. No: EIP97073749404

**Title:** Two-level document ranking using mutual information in natural language information retrieval  
**Author:** Kang, Hyun-kyu ; Choi, Key-sun  
**Corporate Source:** Electronics and Telecommunications Research Inst, Taejeon, South Korea  
**Source:** Information Processing & Management v 33 n 3 May 1997. p 289-306  
**Publication Year:** 1997  
**CODEN:** IPMADK **ISSN:** 0306-4573  
**Language:** English  
**Document Type:** JA; (Journal Article) **Treatment:** G; (General Review)  
**Journal Announcement:** 9709W3

**Abstract:** Information **retrieval** is to **retrieve** relevant information that satisfies user's information needs. There arises a problem of how to select only information that is relevant to the user. Ranking techniques are used to **find** the documents in a collection of documents that are most likely to be relevant to the user's **query**. However, we **find** out that there could be **retrieved** documents whose contexts may not be consistent to the **query**. Mutual information is a measure which represents the relation between a word and another word. So, we will re-evaluate the relation between the terms in the **retrieved** document and the terms in the **query**. In this paper, we discuss a model of **natural language information retrieval** system that is based on a two-level document ranking method using mutual information. At the first-level, we **retrieve** documents based on automatically constructed index terms. At the second-level, we reorder the **retrieved** documents using mutual information. We will show that our method achieves considerable **retrieval** effectiveness improvement over a traditional linear **searching** method. Also, we will analyze seven newly developed formulas that reorder the **retrieved** documents. Among the seven formulas, we will recommend one formula that dominates the others in terms of the **retrieval** effectiveness. (Author abstract) 34 Refs.

**Descriptors:** \*Information **retrieval** systems; Information management; **Natural language** processing systems; **Query** languages; Online **searching**; Information use

**Identifiers:** Two level document ranking method

**Classification Codes:**

903.3 (Information Retrieval & Use); 903.2 (Information Dissemination);  
723.2 (Data Processing); 723.3 (Database Systems); 722.4 (Digital  
Computers & Systems)  
903 (Information Science); 723 (Computer Software); 722 (Computer  
Hardware)  
90 (GENERAL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

Set	Items	Description
S1	39238	NATURAL() (TEXT? OR LANGUAGE?)
S2	3494	CONCEPT?() (STRUCTUR? OR NOTATION? OR GRAPH?) OR KIF OR KIFS OR CGIF?
S3	16433260	QUERY OR QUERIES OR RETRIEV? OR INQUIR? OR SEARCH OR SEARC- HES OR SEARCHING OR SEARCHENGINE? OR SEEK? OR LOCAT? OR MATCH? OR FIND OR FINDS OR FINDING
S4	436163	SENTENC? OR GRAMMAR? OR GRAMMATIC? OR STANDARD() STRUCTUR?
S5	12668185	TRANSLAT? OR MAP OR MAPPING OR MAPPED OR INDEX? OR TRANSFO- RM? OR CREAT? OR PARS?
S6	1939	S3 (10N) S4 (10N) S5
S7	110	S6 (10N) (S1 OR S2)
S8	1	S6 (8N) S2
S9	109	S6 (10N) S1
S10	5	S1 (3N) S2
S11	63	S2 (4N) S3
S12	3	S11 (12N) (S4 OR S5)
S13	68	S8 OR S10 OR S11 OR S12
S14	52	RD (unique items)
S15	36	S14 NOT PY>2000
S16	36	S15 NOT PD=20001208:20021208
S17	36	S16 NOT PD=20021208:20050101
File 275:	Gale Group Computer DB(TM) 1983-2005/Jan 06 (c) 2005 The Gale Group	
File 47:	Gale Group Magazine DB(TM) 1959-2005/Jan 06 (c) 2005 The Gale group	
File 75:	TGG Management Contents(R) 86-2004/Dec W1 (c) 2004 The Gale Group	
File 636:	Gale Group Newsletter DB(TM) 1987-2005/Jan 06 (c) 2005 The Gale Group	
File 16:	Gale Group PROMT(R) 1990-2005/Jan 06 (c) 2005 The Gale Group	
File 624:	McGraw-Hill Publications 1985-2005/Jan 06 (c) 2005 McGraw-Hill Co. Inc	
File 484:	Periodical Abs Plustext 1986-2005/Jan W1 (c) 2005 ProQuest	
File 613:	PR Newswire 1999-2005/Jan 05 (c) 2005 PR Newswire Association Inc	
File 813:	PR Newswire 1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc	
File 141:	Readers Guide 1983-2004/Sep (c) 2004 The HW Wilson Co	
File 696:	DIALOG Telecom. Newsletters 1995-2005/Jan 05 (c) 2005 The Dialog Corp.	
File 553:	Wilson Bus. Abs. FullText 1982-2004/Sep (c) 2004 The HW Wilson Co	
File 621:	Gale Group New Prod. Annou.(R) 1985-2005/Jan 06 (c) 2005 The Gale Group	
File 674:	Computer News Fulltext 1989-2004/Dec W2 (c) 2004 IDG Communications	
File 88:	Gale Group Business A.R.T.S. 1976-2005/Jan 04 (c) 2005 The Gale Group	
File 369:	New Scientist 1994-2005/Dec W4 (c) 2005 Reed Business Information Ltd.	
File 160:	Gale Group PROMT(R) 1972-1989 (c) 1999 The Gale Group	
File 635:	Business Dateline(R) 1985-2005/Jan 06 (c) 2005 ProQuest Info&Learning	
File 15:	ABI/Inform(R) 1971-2005/Jan 06 (c) 2005 ProQuest Info&Learning	



File 9:Business & Industry(R) Jul/1994-2005/Jan 05  
(c) 2005 The Gale Group  
File 13:BAMP 2005/Dec W4  
(c) 2005 The Gale Group  
File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire  
File 610:Business Wire 1999-2005/Jan 06  
(c) 2005 Business Wire.  
File 647:CMP Computer Fulltext 1988-2005/Dec W3  
(c) 2005 CMP Media, LLC  
File 98:General Sci Abs/Full-Text 1984-2004/Sep  
(c) 2004 The HW Wilson Co.  
File 148:Gale Group Trade & Industry DB 1976-2005/Jan 06  
(c)2005 The Gale Group  
File 634:San Jose Mercury Jun 1985-2004/Dec 31  
(c) 2005 San Jose Mercury News

17/3,K/1 (Item 1 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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02037656 SUPPLIER NUMBER: 19135544 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**KQML at your service. (Knowledge Query and Manipulation Language and other  
new autonomous-agent technologies) (Technology Information)**  
Plain, Stephen W.  
Computer Shopper, v16, n3, p594(5)  
March, 1997  
ISSN: 0886-0556 LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 3595 LINE COUNT: 00293

ABSTRACT: The new Knowledge Interchange Format ( **KIF** ) and Knowledge  
**Query** and Manipulation Language (KQML) standards will allow development of  
more advanced intelligent agents that could...

17/3,K/8 (Item 8 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2005 The Gale Group. All rts. reserv.

01173653 SUPPLIER NUMBER: 00667570

**Conceptual graphs for semantics and knowledge processing.**

Catach, Laurent; Dugourd, Anne Elisabeth; Fargues, Jean; Landau,  
Marie-Claude

IBM Journal of Research and Development, v30, n1, p70-79

Jan., 1986

ISSN: 0018-8646

LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

ABSTRACT: This paper discusses the representational and algorithmic power of the **conceptual graph** model for **natural language** semantics and knowledge processing. Also described is a Prolog-like resolution method for conceptual graphs...

17/3,K/12        (Item 1 from file: 75)  
DIALOG(R)File 75:TGG Management Contents(R)  
(c) 2004 The Gale Group. All rts. reserv.

00224247        SUPPLIER NUMBER: 55368232

**Interactive graphical queries for bibliographic search.**

Brooks, Martin; Campbell, Jennifer

Journal of the American Society for Information Science, 50, 9, 814(1)

July, 1999

ISSN: 0002-8231

LANGUAGE: English

RECORD TYPE: Abstract

...ABSTRACT: existing queries. It is aimed at assisting the user by supporting the logical and nonlinear **conceptual structure** of the **search** session. A comparison of the same INSPEC search is executed by means of the Islands...

17/3,K/14 (Item 1 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2005 The Gale Group. All rts. reserv.

02125628 Supplier Number: 42757187 (USE FORMAT 7 FOR FULLTEXT)

**Tipster requires new document-search methods**

Electronic Engineering Times, p35

Feb 17, 1992

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1193

... s choices

The three technologies chosen by Darpa as the most promising in detecting and **retrieving** documents are context vectors, **conceptual graphs**, and inference networks. HNC is developing the context-vector approach, which was invented by its...

...a verbal reaction, a history, previous related events and so forth," Liddy explained.

Then the **conceptual graph** of a **query** is compared with the **conceptual graphs** of the documents, resulting in a

Set	Items	Description
S1	228	AU=(CHA K? OR CHA, K?)
S2	341	AU=(CHUNG E? OR CHUNG, E?)
S3	3188	AU=(LIM S? OR LIM, S?)
S4	3440	AU=(KANG H? OR KANG, H?)
S5	1	S1 AND S2 AND S3 AND S4
S6	12	(S1 OR S2 OR S3 OR S4) AND IC=G06F-007?
S7	33	(S1 OR S2 OR S3 OR S4) AND (NATURAL() LANGUAGE? OR LEXICOG? OR LINGUIST? OR MORPHOLOG? OR SEMANTIC? OR GRAMMAR? ? OR GRAM- MATIC?)
S8	13	S7 AND IC=G06F?
S9	24	S5 OR S6 OR S8
S10	24	IDPAT (sorted in duplicate/non-duplicate order)
S11	24	IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2004/May (c) 2004 European Patent Office		
File 347:JAPIO Nov 1976-2004/Aug(Updated 041203) (c) 2004 JPO & JAPIO		
File 348:EUROPEAN PATENTS 1978-2004/Dec W03 (c) 2004 European Patent Office		
File 349:PCT FULLTEXT 1979-2002/UB=20041230,UT=20041223 (c) 2004 WIPO/Univentio		
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200482 (c) 2004 Thomson Derwent		

11/5/3 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015849944 \*\*Image available\*\*  
WPI Acc No: 2004-007771/200401

**Device for extracting information requested by user in unstructured document and method thereof**

Patent Assignee: ELECTRONICS & TELECOM RES INST (ELTE-N)  
Inventor: JUNG U S; LIM M E; **LIM S J** ; WANG J H; YOON B H  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 2003068856	A	20030825	KR 20028514	A	20020218	200401 B

Priority Applications (No Type Date): KR 20028514 A 20020218

**Patent Details:**

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
KR 2003068856	A		1	G06F-017/30	

Abstract (Basic): KR 2003068856 A

NOVELTY - A device for extracting information requested by a user in an unstructured document and a method thereof are provided to extract only specific information using an event template including information of who, when, where, what, and how on condition that a user collects an unstructured document for extracting information.

DETAILED DESCRIPTION - An extraction information specification unit(10) designates and inputs information to be extracted by a user. If a document for an information extraction(21) is inputted, an event template extraction unit(20) checks whether designated information is included in the extraction information specification unit(10) and extracts an event template of a sentence unit of a specific **semantic** argument structure. An event template integrating unit(30) integrates event templates created in the event template extraction unit(20) interactively in accordance with an agreement of a **semantic** argument and contents thereof. A template extracting unit(40) extracts a template including only information to be extracted by a user out of event templates integrated in the event template integrating unit(30) and stores the template in a database(41).

pp; 1 DwgNo 1/10

Title Terms: DEVICE; EXTRACT; INFORMATION; REQUEST; USER; UNSTRUCTURED;  
DOCUMENT; METHOD

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

11/5/5 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014822342 \*\*Image available\*\*  
WPI Acc No: 2002-643048/200269  
XRPX Acc No: N02-508368

Information generation and retrieval apparatus partitions analyzed  
semantic structure which is then indexed, stored to search information  
which is most relevant to user's query

Patent Assignee: KOREA ELECTRONICS & TELECOM RES INST (KOEL-N); CHA K  
(CHAK-I); CHUNG E (CHUN-I); KANG H (KANG-I); LIM S (LIMS-I)  
Inventor: CHA G H; JUNG U S; KANG H G ; LIM S J ; CHA K ; CHUNG E ;  
KANG H ; LIM S

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020107844	A1	20020808	US 2001852317	A	20010508	200269 B
KR 2002045343	A	20020619	KR 200074768	A	20001208	200279

Priority Applications (No Type Date): KR 200074768 A 20001208

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020107844	A1	19	G06F-007/00	
KR 2002045343	A		G06F-017/30	

Abstract (Basic): US 20020107844 A1

NOVELTY - An analyzer (13) analyzes sentence structure of **natural language** query from user with reference to stored language knowledge data, to generate **semantic** structure. The **semantic** structure is partitioned, indexed, stored to search and supply information which is most **semantically** relevant to user's query. A processor (14) has sentence form at rule based on which the failure data from the analyzer is corrected and is transferred to the user.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) Information generation and retrieval method; and
- (2) Computer-readable medium storing information generation and retrieval program.

USE - Internet based information generation and retrieval apparatus.

ADVANTAGE - Efficient information retrieval is performed relevant to the standardized formation and thereby improving information transaction and transport, thereby satisfying demand for transaction of information request from user.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the information generation and retrieval apparatus.

Analyzer (13)

Processor (14)

pp; 19 DwgNo 1/6

Title Terms: INFORMATION; GENERATE; RETRIEVAL; APPARATUS; PARTITION;

ANALYSE; STRUCTURE; INDEX; STORAGE; SEARCH; INFORMATION; RELEVANT; USER;  
QUERY

Derwent Class: T01

International Patent Class (Main): G06F-007/00 ; G06F-017/30

File Segment: EPI



11/5/13 (Item 13 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013308006 \*\*Image available\*\*  
WPI Acc No: 2000-479943/200042

Method for removing the ambiguity of word meaning for natural language  
information retrieval - NoAbstract

Patent Assignee: KOREA ELECTRONICS & TELECOM RES INST (KOEL-N)

Inventor: KANG H K ; PARK S Y; KANG H G

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 99052565	A	19990715	KR 9772058	A	19971222	200042 B
KR 250442	B1	20000401	KR 9772058	A	19971222	200124

Priority Applications (No Type Date): KR 9772058 A 19971222

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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KR 99052565	A			G06F-017/28	
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KR 250442	B1			G06F-017/28	
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Title Terms: METHOD; REMOVE; AMBIGUOUS; WORD; MEANING; NATURAL; LANGUAGE;  
INFORMATION; RETRIEVAL; NOABSTRACT

Derwent Class: T01

International Patent Class (Main): G06F-017/28

File Segment: EPI

11/5/19 (Item 19 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

012163275

WPI Acc No: 1998-580187/199849

Method for 2-step determination of document ranking in natural  
language information retrieval NoAbstract  
Patent Assignee: KOREA ELECTRONICS & TELECOM RES INST (KOEL-N); KOREA  
ELECTRONICS & TELECOM RES (KOEL-N)

Inventor: KANG H G

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 97076323	A	19971212	KR 9614313	A	19960502	199849 B
KR 171030	B1	19990330	KR 9614313	A	19960502	200044

Priority Applications (No Type Date): KR 9614313 A 19960502

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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KR 97076323	A			G06F-017/20	
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KR 171030	B1			G06F-017/20	
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Title Terms: METHOD; STEP; DETERMINE; DOCUMENT; RANK; NATURAL; LANGUAGE;  
INFORMATION; RETRIEVAL; NOABSTRACT

Derwent Class: T01

International Patent Class (Main): G06F-017/20

File Segment: EPI